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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,456	10/30/2003	David Pin	15436.128.1	7981

22913 7590 07/12/2006

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EXAMINER
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PETKOVSEK, DANIEL J

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/697,456

Applicant(s)

PIN ET AL

Examiner

Daniel J. Petkovsek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on amendment filed April 25, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 33-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on October 30, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action is in response to the amendment filed April 25, 2006. In accordance with the amendment, claims 24 and 26 have been amended. Claims 1-35 are pending (claims 1-10, and 33-35 withdrawn as being a non-elected group).

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brun et al. U.S.P. No. 6,582,135 B2, and further in view of Hwang et al. US 2003/0077047 A1.

Brun et al. U.S.P. No. 6,582,135 B2 teaches (Figs. 1-3; column 6, line 29 through column 8, line 63) an integrated coaxial optical component (any manufacturing use being intended) comprising: an optical filter 24 coupled to a collimating lens 22, wherein the collimating lens 22 has a front face and a rear face that is beveled at an angle (see column 8, lines 45-53, etc.); a dual fiber element 16 having fibers (18, 20) attached to the collimating lens 22, wherein the dual fiber element front face is beveled at an angle that is parallel to the rear face of collimating lens 22, so that adequate alignment can be accomplished (see column 8, lines 45-53); a plurality of spacers 12 disposed around the dual fiber collimator; and a metal housing 32 including two ends in which permanent securement is made by a solder/welding 31 component that joins the entire optical apparatus (this regards to narrowest independent claim 20).

Brun et al. '135 does not *explicitly* teach that the solder/welding component is *epoxy*, or the dual fiber element is a *pigtail* (also claim 11). A person having ordinary skill in the art at the time the invention was made would have recognized that the solder/welding component 31 performs the same function as the epoxy as claimed in this application (these elements are art recognized for performing the particular function at hand). The solder joins the dual fiber collimator to the metal housing in the same manner as an epoxy would. A person having ordinary skill in the art at the time the invention was made would have recognized that the dual fiber element performs the same function as a dual fiber pigtail in this application (the words "pigtail" are not explicitly used). The dual fiber element and a dual fiber pigtail are art recognized equivalents for the purpose of coupling optical signals.

Brun et al. '135 does not *explicitly* teach that optical epoxy is used to attach the collimating lens and the dual fiber element and other secure attachments (independent claims 20 and 27, claim 12).

Hwang et al. US 2003/0077047 A1 teaches (Fig. 1) a dual fiber element 2 attached to a collimating lens 4 using an optical epoxy 8. Hwang '047 disclosed the same general inventive concept as the current application.

Since Brun et al. '135 and Hwang et al. '047 are both from the same field of endeavor, the purpose disclosed by Hwang et al. '047 would have been recognized in the pertinent art of Brun et al. '135.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to attach two optical components in a system with an optical epoxy to

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improve the optical coupling and maintain connectivity in optical alignment. Although Brun et al. '135 is silent to the use of optical epoxy between the dual fiber element and the collimating lens 22, an optical epoxy is used between other optical components (i.e. collimating lens 22 and filter 24).

Regarding claims 12, 21 and 28, the sleeves/ferrules (acting as spacers) can be made of glass.

Regarding claims 13, 14, and 22, a GRIN (graded index) lens is used (see Fig. 3).

Regarding claims 15 and 23, the optical component is adapted to be used at least as a three-port device.

Regarding claims 16, 24 and 31, a solder hole 32a exists in the housing.

Regarding claims 17, 18, 25, 26, and 30, a second optical element (single fiber collimator (34/39)) is extended in the metal housing and aligned to the dual fiber collimator (see Fig. 3).

Regarding claim 29, see Figure 3 for these specific components as fully disclosed in the rejections above.

Regarding claims 19 and 32, the element is secured using solder.

### ***Response to Arguments***

3. Applicant's arguments filed April 25, 2006 have been fully considered but they are not persuasive. Applicant asserts that the Examiner has not presented a prima facie case of obviousness. The Examiner disagrees with this assertion, as each requirement of 35 U.S.C. 103(a) has been met in the rejection mailed December 28, 2005.

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Applicant states that “it appears that the Examiner is relying on personal knowledge as a basis for rejecting claims 11 and 20.” (page 14, response filed April 25, 2006). However, the Examiner has relied upon the teaching of the prior art (Brun et al. ‘135, Hwang et al. ‘047 ; and other references as cited in the PTO-892 form). The Examiner is *interpreting* what a person having ordinary skill in the art would have recognized from the teaching of the prior art, to come to the conclusion that dual fiber “element” and dual fiber “pigtail” have equivalent function in the art (see, for example, column 21, lines 27-62 of Brun et al. ‘135). Since “personal knowledge” was not relied upon in the 35 U.S.C. 103 (a) rejection, an affidavit under 37 CFR 1.104(d)(2) is not required.

Since Applicant does not argue the merits of the rejection minus the dual fiber element vs. dual fiber pigtail, the Examiner maintains the remainder of the rejection to claims 11-32 as fully addressed in the 35 U.S.C. 103(a) rejections above.

### *Conclusion*

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Petkovsek whose telephone number is (571) 272-2355. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Daniel Petkovsek  
July 10, 2006

  
SUNG PAK  
PRIMARY EXAMINER